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ABSTRACT

The relationships between Myers-Briggs Type Indicators (MBTI), 16 personality types, and 55 behavioral indicators of teacher competency were explored. Subjects were 103 classroom teachers, grades K-12, who were observed in regular classrooms during a two-year period using five objectively-scored, low-inference observation systems. These included the Spaulding Teacher Activity Rating Schedule (STARS), the Coping Analysis Schedule for Educational Settings (CASES), the Florida Classroom Climate and Control System (FLACCS), the Teahcer Practices Observation Record (TPOR), and the Observation Schedule and Record, Form 5, Verbal (OScAR 5V). Composites of items from these instruments were combined as behavioral indicators of teacher competency. Twenty-six of these scores reflected teacher activities and 29 reflected teacher competence through student behaviors. The results showed that teachers with different MTBI personality types tend to teach in the same way, but that their students respond to them quite differently. (Author/MV)

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MYERS-BRIGGS TYPES AS PREDICTORS OF OBSERVED TEACHER BEHAVIOR

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MYERS-BRIGGS TYPES AS PREDICTORS OF OBSERVED TEACHER BEHAVIOR

Introduction

The present paper reports on one aspect of the analyses of data collected as part of the Carroll County, Georgia, Competency Based Teacher Certification Project. In this project, data were collected on more than 1800 students in 59 classrooms (grades 1-12) during the 1974-75 school year, and on more than 1300 students in 43 classrooms during the 1975-76 school year. The rationale for and the design of this project were reported in an AERA paper (Lorentz, 1976) which includes a complete description of all the instruments used and a thorough discussion of the procedures.

The present study explores some relationships between Myers-Briggs Type Indicator (MBTI) 16 personality types and 55 behavioral indicators of teacher competency.

Among the recent studies which have considered MBTI personality types and teacher competencies is the paper by Atman and Hummel (1966) which presents some implications for CBE implicit in the MBTI types. And Lawrence and DeNovellis (1974) reported relationships between personality types as measured by the Myers-Briggs and overt patterns of behavior as sampled by systematic observation techniques.

Procedures

Subjects for the study were 103 classroom teachers, grades K-12, who were observed in regular classrooms during a two-year-long period by trained observers using five objectively-scored low-inference observation systems: STARS (Spaulding, 1974), CASES (Spaulding, 1970), FLACCS (Soar, Soar and Ragosta, 1971), TPOR (Brown, 1972), and OScAR (Medley, 1955). Composites of items from these instruments were combined as behavioral indicators of teacher competency. Twenty-six of these scores reflected teacher activities and 29 reflected teacher competence through student activities.

These indicators were computed on two independent samples of classroom teachers (1st year n=60, 2nd year n=43) in the following way. Clusters of items from the five observation instruments were aggregated as a priori measures of the "competencies" set forth by Carroll County teachers in 1974, or "competency scores." These competencies were derived from several lists of competency statements as well as local and state goals.

The reliabilities of the competency scores were computed separately on both sets of data using Medley's (1977) procedure.

These reliabilities, which range from .00 to .97, with most in the range .70 to .90, are an index of the stability of a measure obtained over time by different trained observers on different visits to the same classroom. These two independent analyses resulted in virtually identical reliabilities.

The 26 teacher-related competencies are listed in Table 1

INSERT TABLE 1 HERE

and the 29 student-related competencies are listed in Table 2.

INSERT TABLE 2 HERE

Each teacher's score on each of the competencies was the mean for all items across all visits by all observers. While each of the competency scores was reduced from observation measures applied to both students and teachers, they are keyed to reflect a primary focus on either teacher (T) or student (S) behaviors.

Ninety-five of the 103 teachers were given the MBTI (Myers, 1962), which was scored to provide each teacher's predominant type. The frequency of predominant type is shown in Table 3.

INSERT TABLE 3 HERE

Two types, INTJ and ESTP, were represented by only one teacher each and these two subjects were dropped from subsequent analyses, leaving 93 teachers in the final sample.

Analysis

Discriminant Analysis was the statistical technique chosen to analyze the data. This multivariate statistical procedure can be viewed as an extension of the univariate F-test. Where the F-test is used to contrast two or more groups on one dependent variable, discriminant analysis is used to contrast two or more groups on more than one dependent variable.

Since the purpose of the study was primarily exploratory, the large number of variables in relation to the number of subjects in each group was not viewed as a deterrent to these analyses.

In the present study, the MBTI types were used for grouping purposes and the 26 teacher competencies and 29 student competencies were the dependent variables in two separate analyses. Veldman's program DISCRM (1967) modified for the West Georgia College Computer Center was used for the analysis.

Results

The multivariate statistics are presented in Table 4.

INSERT TABLE 4 HERE

Wilk's Lambda, the multivariate test of groups discrimination, reveals that, when the 14 MBTI groups are contrasted on the 26 teacher competencies (T-Analysis), they do not differ significantly. However, when these same groups are contrasted on the 29 student competencies (S-Analysis) they do differ significantly ($p < .00001$).

The difference between these groups, over all variables, is described by a series of discriminant functions. In the T-Analysis the first two functions are significant discriminators and they account for approximately half of the variance between groups. In the S-Analysis, the first three discriminant functions were significant and accounted for nearly all of the variance between groups.

The multivariate equivalent to a univariate mean is the centroid, which reduces the discriminant function scores for each member of the group to a single index. These are shown for the first two discriminants for both analyses in Table 5.

INSERT TABLE 5 HERE

These centroids for the first two functions are plotted (Function 1 horizontal axis, Function 2 vertical axis) in Figures 1 and 2.

INSERT FIGURES 1-2 HERE

The correlation of original scores with discriminant functions, as well as the univariate F-tests provide an indication of the magnitude of the contribution of each variable (i.e. individual competency) to the group discrimination. These statistics are shown in Table 6.

INSERT TABLE 6 HERE

Finally, selected extreme groups, as revealed by the plots of the centroids are contrasted graphically on each of the 26 and 29 competencies in Figures 4 and 5.

INSERT FIGURES 4-5 HERE

Discussion

Two conclusions are readily apparent from these data. The groups of teachers classified by predominant MBTI personality types do not differ significantly on the measures of teacher competency. The same groups, however, do differ significantly on the measures of competency as reflected by students. Or in other words, teachers with different MBTI personality types tend to teach in much the same way, but they are responded to quite differently by their students.

The discrimination among the fourteen groups on the first two discriminants (as illustrated by Figures 1 and 2) show some interesting differences.

In the T-Analysis, the ESFJ and ENTJ groups are most different in terms of the first function. And, although the ENTJ and ENTP groups are nearly identical on the first function, these two are most different on the second function. Consequently, these three groups are contrasted on each of the 26 teacher competencies in Figure 4.

The ENTP group has the highest score on competency T-3 (multi-level materials) while the ENTJ group has the lowest score on competency T-19 (more than one instructional activity). The ESFJ group is generally between these two extreme groups.

In the S-Analysis, ENTP and ENFJ groups are most dissimilar on the first function. The ENTP and ESFP groups are extremely different on the first function but almost identical on the second. On the other hand, ENFP and ESFP groups are alike on the first function and at opposite extremes on function 2. These former groups, along with INTP are contrasted on each of the 29 student competencies in Figure 5.

Several examples may be selected to illustrate the contrasts among these five groups. While ESFP and ENFP groups are most extreme on competency S-1 (reduced deviance) but nearly identical on competencies S-8 (evidence of involvement) and S-9 (less time wasting). ENTP and ESFP groups are extreme on competency S-22

(moving toward self-direction) and similar on S-23 (attending to task). Numerous reversals are seen in these groups as in S-16 through S-19 with ESFP and INTP groups.

Conclusion

These preliminary findings suggest that while teacher personality may not influence a teacher's behavior, it apparently has an effect on student behavior. With the data already on hand in the CBTC project which show relations between these competencies and student growth, a series of subsequent analyses are suggested of these outcome data and MBTI types.

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TABLE 1

LIST OF COMPETENCY STATEMENTS

T-ANALYSIS

ITEM	COMPETENCY
T-1	Selects Goals and Objectives Appropriate to Pupil Need
T-2	Matching Student with Appropriate Materials
T-3	Gathers Multi-level Materials
T-4	Involves Student in Organizing and Planning
T-5	Gives Clear Explicit Directions
T-6	Pauses, Elicits, and Responds to Student Questions
T-7	Uses a Variety of Methods, Verbal and Non-verbal
T-8	Demonstrates Proper Listening Skills
T-9	Respects Individual's Right to Speak
T-10	Utilizes Nonverbal Communication Skills
T-11	Utilizes Student Feedback, Verbal & Non-verbal, to Modify Teaching Behavior
T-12	Demonstrates Flexibility in Classroom Management Practices
T-13	When Student not on Task, Teacher Makes Contact
T-14	Provides Feedback to Pupil on his Behavior
T-15	Teacher Helps Pupil Correct Cognitive Misperceptions
T-16	Maintains Self-Control in Classroom Situation and with Students
T-17	Recognizes and Treats Individual Student Behavior
T-18	Accepts Necessity of Dealing with Individual Students
T-19	Uses More Than One Instructional Activity Simultaneously
T-20	Teacher Provides Opportunity for Student to Meet Success Daily
T-21	Evidence of a Personal One-to-One Relationship with Students
T-22	Evidence of Praise and/or Rewards in Operation
T-23	Supportative Classroom Management
T-24	Accepts and Incorporates Student Ideas
T-25	Listen to Students and Provides Feedback
T-26	Evidence of Opportunity for One-to-One Counseling

TABLE 2

LIST OF COMPETENCY STATEMENTS

S-ANALYSIS

ITEM	COMPETENCY
S-1	Reduced Deviant Behavior
S-2	Better Physical, Mental Health
S-3	Enjoys Class, Happy Smiles
S-4	Actively Involved, Working on Task
S-5	Evidence Academic Growth
S-6	Absence Withdrawn Behavior, Reduced Deviant Behavior
S-7	Enthusiastically Involved
S-8	Evidence of Involvement
S-9	Less Confusion, Less Time Wasting
S-10	Self-directed to Move Toward Task
S-11	Students Able to Speak Freely
S-12	Able to Follow Directions on Task
S-13	Able to Communicate Through Writing
S-14	Students Ask Questions
S-15	Students Feel Free to Interrupt Pupil Presentation
S-16	Movement Toward Task
S-17	Absence of Student Manipulation of Teacher & Peers
S-18	Modifies Behavior Positively
S-19	Reduction of Disruptive Behavior
S-20	Attentive
S-21	Actively Involved
S-22	Moving Toward Self-Direction
S-23	Attending to Task
S-24	Evidence of Importance as Class Member - Group Involvement
S-25	Assumes Responsibility for Own Success or Failure
S-26	Evidence of Enthusiasm
S-27	Expresses Ideas and Opinions Different to Those of Teacher
S-28	High Interest
S-29	Evidence of Confidence in Teacher

TABLE 3

TABULATION OF TEACHERS

BY MYERS-BRIGGS TYPE

(N=95)

Sensing		Intuitive			
Thinking	Feeling	Feeling	Thinking		
ISTJ N=6 (6.3%)	ISFJ N=16 (16.8%)	INFJ N=7 (7.4%)	INTJ * N=1 (1.0%)	Judging	Introverts
ISTP N=2 (2.1%)	ISFP N=9 (9.5%)	INFP N=4 (4.2%)	INTP N=4 (4.2%)	Perceptive	
ESTP * N=1 (1.0%)	ESFP N=4 (4.2%)	ENFP N=6 (6.3%)	ENTP N=2 (2.1%)	Perceptive	Extraverts
ESTJ N=9 (9.5%)	ESFJ N=15 (15.8%)	ENFJ N=6 (6.3%)	ENTJ N=3 (3.2%)	Judging	

*Not included in the analyses

TABLE 4

MULTIVARIATE STATISTICS

Discriminant Function	Relative Percentage	Wilks' Lambda	Chi Square	df	Significance
T-ANALYSIS					
	(90.49)	0.011	-	338/672	0.7540
1	32.49	-	85.547	38	0.0001
2	21.42	-	65.976	36	0.0024
3	11.31	-	41.904	34	0.1707
4	10.85	-	40.590	32	0.1469
5	10.66	-	40.054	30	0.1084
6	7.82	-	31.328	28	0.3058
7	5.46	-	23.202	26	0.6214
S-ANALYSIS					
	(99.95)	0.000	-	377/651	0.0000
1	89.84	-	288.115	41	0.0000
2	2.49	-	66.414	39	0.0052
3	2.32	-	63.427	37	0.0056
4	1.37	-	43.614	35	0.1561
5	1.01	-	34.410	33	0.4028
6	.87	-	30.561	31	0.5101
7	.72	-	26.058	29	0.6221
8	.47	-	18.161	27	0.8966
9	.32	-	12.933	25	0.9766
10	.25	-	10.130	23	0.9898
11	.21	-	8.683	21	0.9909
12	.14	-	6.068	19	0.9973

TABLE 5

CENTROIDS

FIRST TWO DISCRIMINAT FUNCTIONS

GROUP	T-ANALYSIS		S-ANALYSIS	
	FUNCTION 1	FUNCTION 2	FUNCTION 1	FUNCTION 2
ISTJ	-1.6001	-13.1003	39.4956	3.0519
ISFJ	-1.6954	-13.1870	39.5489	2.9275
INFJ	-1.5842	-12.9288	39.3561	2.8696
ISTP	-1.6681	-12.8301	39.2696	3.2709
ISFP	-1.7307	-12.8134	39.8278	3.0168
INFP	-1.6268	-12.7407	39.7979	3.2772
INTP	-1.7687	-13.2372	38.5163	3.2888
ESFP	-1.6311	-13.0106	39.8933	2.6437
ENFP	-1.6258	-13.0099	39.7909	3.4980
ENTP	-1.7516	-12.6635	37.1877	2.6473
ESTJ	-1.6510	-13.1952	39.8947	3.0736
ESFJ	-1.5781	-13.0317	39.7337	3.0707
ENFJ	-1.5837	-13.0950	40.6718	2.8675
ENTJ	-1.7909	-13.3725	39.7990	3.2767

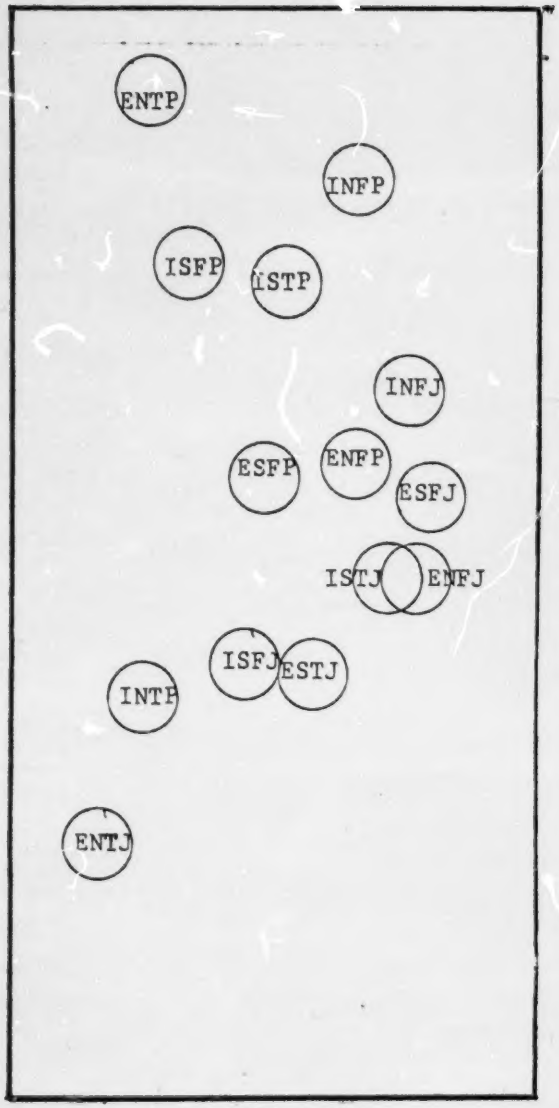
TABLE 6

CORRELATION OF COMPETENCIES AND FIRST TWO DISCRIMINANT FUNCTIONS AND UNIVARIATE STATISTICS

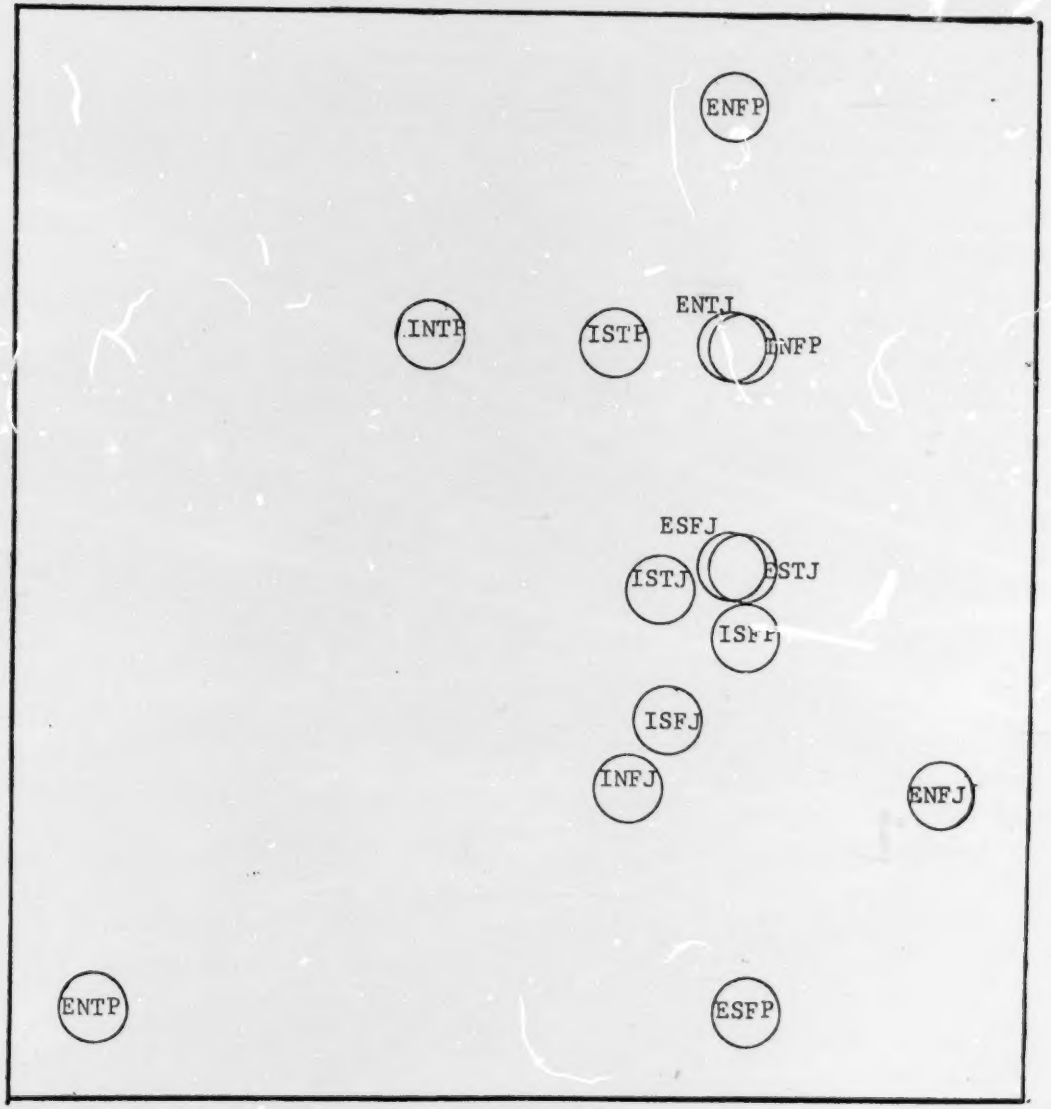
ITEM	CORRELATION FUNCTION 1	CORRELATION FUNCTION 2	UNIVARIATE F-TESTS (DF=13/79) F. Ratio	Significance
T- ANALYSIS				
T-1	0.0595	-0.2245	0.8514	0.6063
T-2	-0.1538	0.0165	1.4057	0.1753
T-3	0.0179	0.0944	0.9126	0.5441
T-4	-0.0373	0.0916	1.4778	0.1444
T-5	0.1055	-0.0854	0.8333	0.6249
T-6	-0.0494	0.1859	0.7273	0.7322
T-7	0.1527	0.2902	1.1123	0.3613
T-8	0.0015	-0.1049	0.8106	0.6482
T-9	-0.0844	0.0851	0.8546	0.6031
T-10	0.2891	0.3944	2.5012	0.0066
T-11	-0.1156	-0.0258	1.0756	0.3920
T-12	0.1222	0.1757	1.1543	0.3282
T-13	0.0743	0.2141	1.4959	0.1374
T-14	0.1761	0.2857	0.8366	0.6216
T-15	-0.0688	-0.1177	1.1151	0.3590
T-16	-0.0005	0.0745	1.3717	0.1917
T-17	0.0460	0.1993	1.2356	0.2704
T-18	0.0294	0.1739	1.0904	0.3795
T-19	0.0130	0.2650	0.8220	0.6365
T-20	0.0123	-0.0656	0.9559	0.5017
T-21	0.1413	0.2108	1.1902	0.3016
T-22	0.1924	0.2409	1.3433	0.2064
T-23	0.2178	0.3837	1.4244	0.1668
T-24	-0.1064	-0.0705	1.5870	0.1065
T-25	0.0530	0.0913	0.8408	0.6172
T-26	0.0237	-0.1366	0.8119	0.6469

TABLE 6 (continued)

ITEM	CORRELATION FUNCTION 1	CORRELATION FUNCTION 2	UNIVARIATE F-TESTS (DF=13/79) F. Ratio	Significance
S-ANALYSIS				
S-1	0.0243	0.3522	1.9701	0.0340
S-2	0.3030	-0.1454	1.3222	0.2178
S-3	0.2992	-0.4083	1.0212	0.4403
S-4	0.1121	-0.0404	0.5755	0.8667
S-5	0.7774	-0.1549	0.9545	0.5031
S-6	-0.1778	0.3282	1.2522	0.2596
S-7	0.9569	-0.3226	0.8057	0.6533
S-8	0.9986	-0.3929	0.8730	0.5842
S-9	0.9779	-0.3661	0.7177	0.7415
S-10	0.8135	-0.2720	0.9992	0.5393
S-11	0.4570	0.0502	1.3893	0.1831
S-12	0.9616	-0.3354	0.8953	0.5615
S-13	0.0623	0.2029	1.4166	0.1703
S-14	0.5580	-0.3878	0.6832	0.7745
S-15	0.2095	-0.1409	0.9020	0.5547
S-16	0.8868	-0.3372	0.9928	0.5334
S-17	0.2830	0.2308	1.5481	0.1189
S-18	0.9779	-0.3661	0.7177	0.7415
S-19	-0.1624	0.4111	1.2878	0.2377
S-20	-0.2098	-0.0515	1.1494	0.3320
S-21	0.8827	-0.3274	0.7969	0.6622
S-22	0.8179	-0.3236	0.8365	0.6216
S-23	0.2358	-0.0032	0.8811	0.5759
S-24	0.8805	-0.3285	0.8477	0.6101
S-25	-0.0976	-0.3077	0.8175	0.6411
S-26	0.8921	-0.3836	0.7753	0.6842
S-27	-0.0940	0.0148	1.3011	0.2298
S-28	0.9165	-0.3807	0.9503	0.5070
S-29	0.0587	0.1220	1.8765	0.0453



T-ANALYSIS



S-ANALYSIS

FIGURE 1 - 2

PLOTS OF CENTROIDS

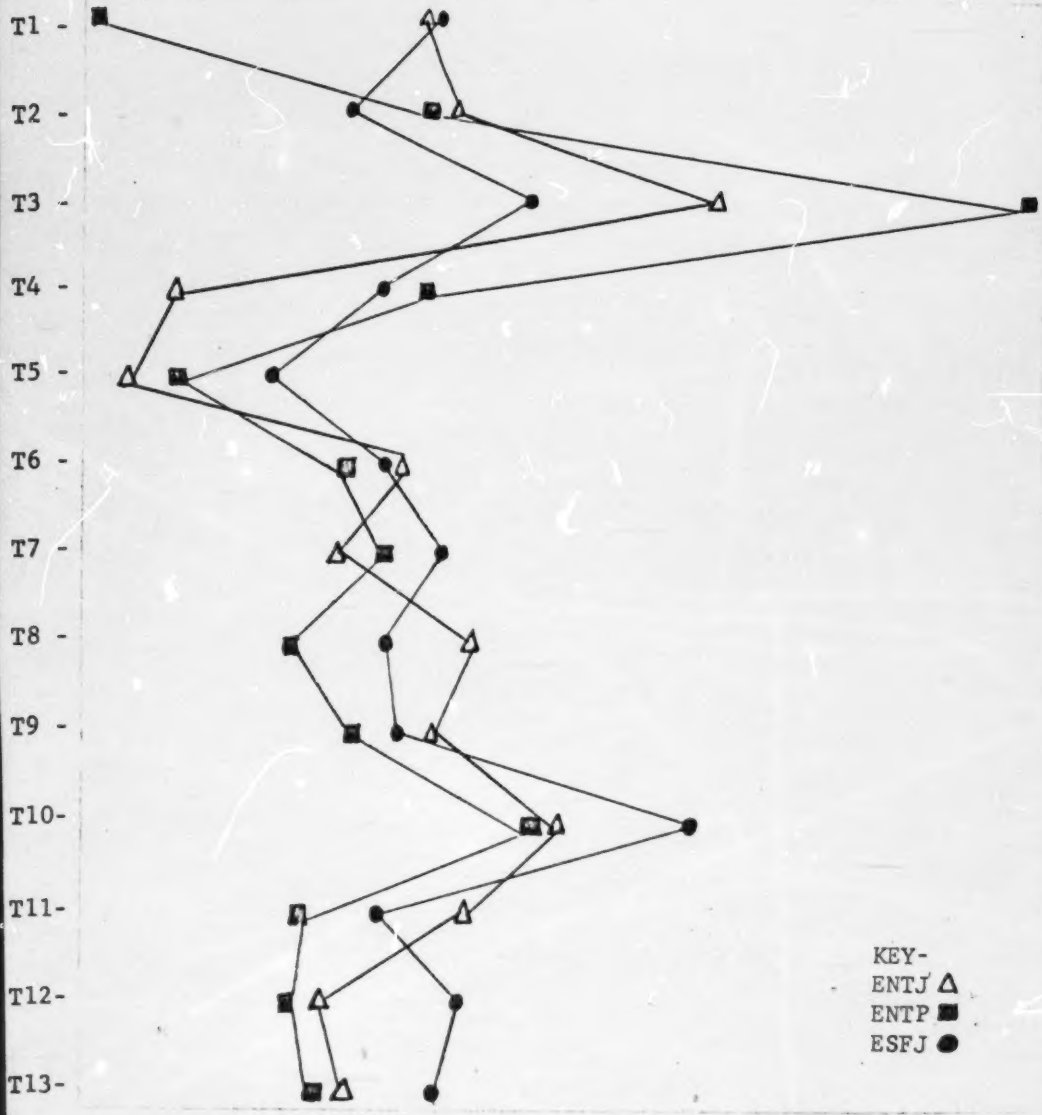


FIGURE 3

MEANS OF 3 EXTREME GROUPS

FIGURE 3

MEANS OF 3 EXTREME GROUPS

(Fig. 3 cont.)

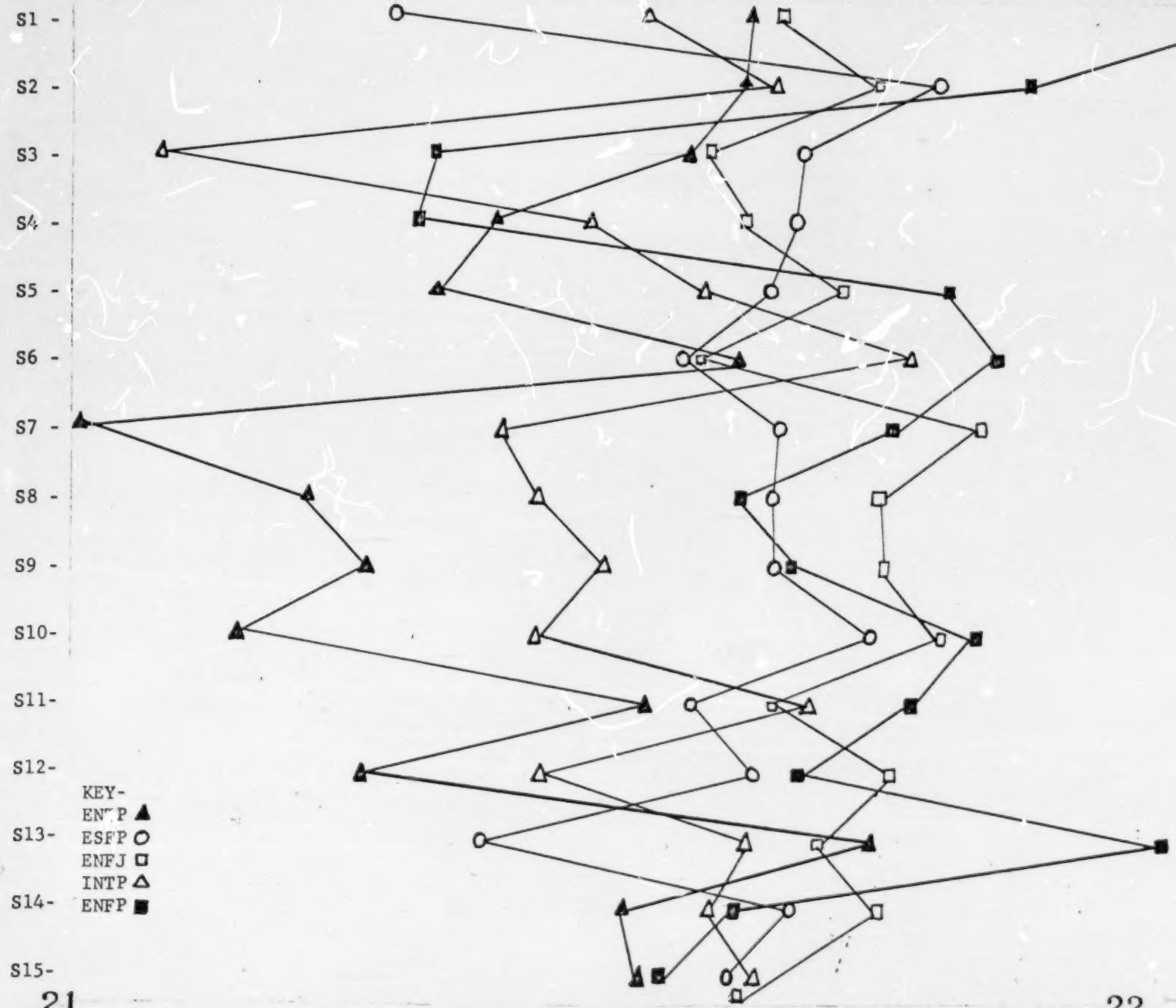


FIGURE 4

MEANS OF 5 EXTREME GROUPS

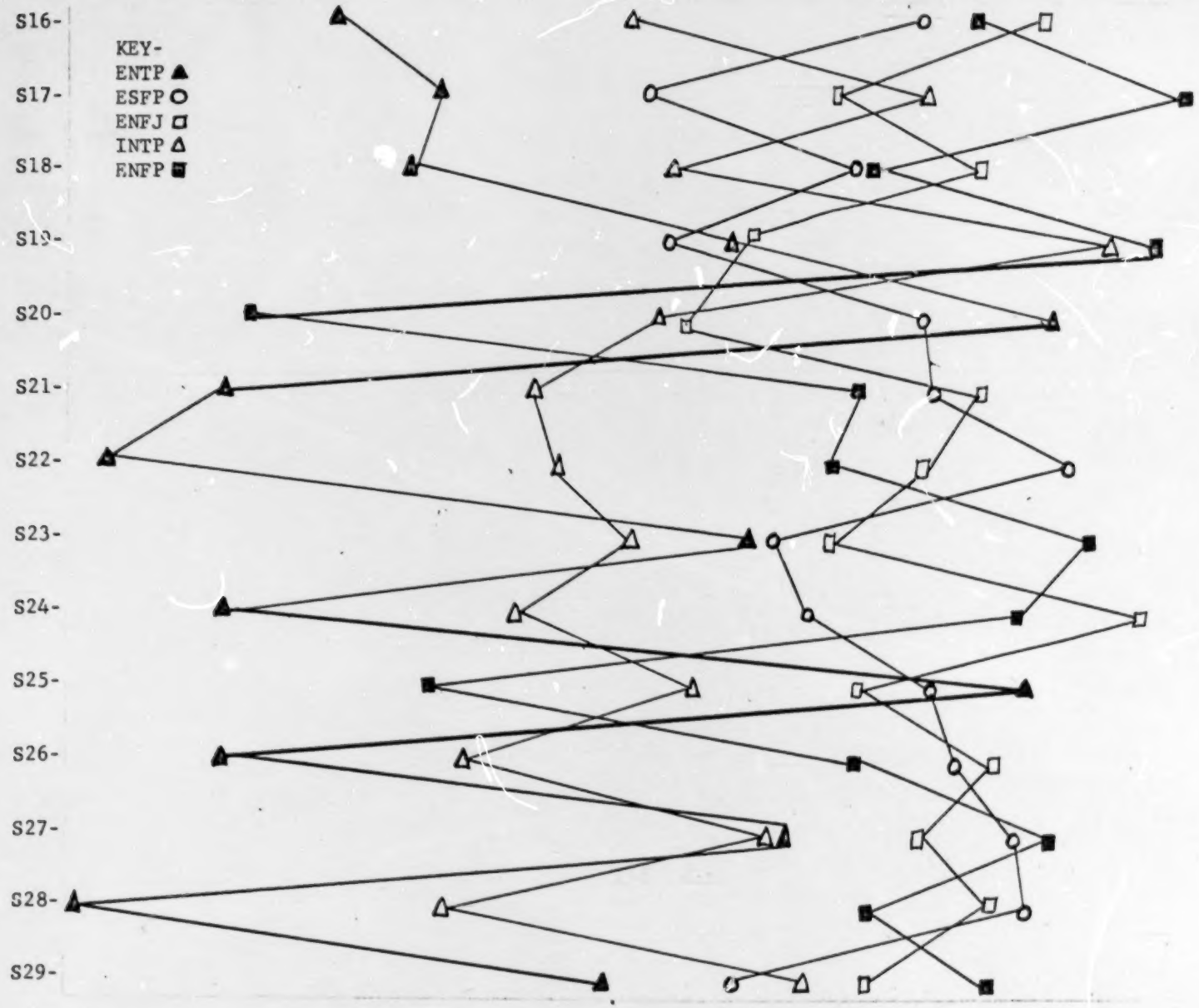


FIGURE 4

MEANS OF 5 EXTREME GROUPS

(Fig. 4 cont.)